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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,273	04/30/2001	Siegfried Ruthardt	R.37659	1054

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EXAMINER

GORMAN, DARREN W

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/844,273

Applicant(s)

RUTHARDT ET AL.

Examiner

Darren W Gorman

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6, 14-17, 20, 21 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 13, 18, 23, 24, 26, 27, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 10-12, 19, 22 and 28 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species represented by figure 4 of Group I, and figure 9 of Group II in Paper No. 10 is acknowledged.
2. Claims 5-6, 14-17, 20-21, and 25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 10.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on December 9, 2002 was filed after the mailing date of the application on April 30, 2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

5. The disclosure is objected to because of the following informalities:

Art Unit: 3752

On page 7, the "control chamber" should be accompanied by a reference number "5", several occurrences, in order to correctly match figure 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-3, 13, 18, 23, 26-27, and 29-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. In regard to claim 2, the subject matter is indefinite because the claim specifies a blind bore centrally located in the nozzle needle at the end oriented toward the valve piston. Claim 2 further specifies that the blind bore receives the end of the valve piston or thrust rod which is oriented toward the nozzle needle. The figures submitted depict a shim and/or a thrust peg between the thrust rod and nozzle needle, therefore it is unclear how the end of the valve piston or thrust rod could be received in a blind bore centrally located in the end of the nozzle needle.

9. In regard to claim 3, the subject matter is indefinite because the claim specifies a blind bore centrally located in the valve piston or the thrust rod at the end oriented toward the nozzle needle. Claim 3 further specifies that the blind bore receives the end of the nozzle needle which is oriented toward the valve piston. The figures submitted depict a shim and/or a thrust peg between the thrust rod and nozzle needle, therefore it is unclear how the end of the nozzle needle could be received in a blind bore centrally located in the end of the valve piston or thrust rod.

Art Unit: 3752

For the purpose of this office action, the claims will be examined as best understood by the examiner.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 4, 9, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al., USPN 6,027,037, in view of Applicant's Disclosure of prior art as recited in the Jepson portion of claim 1.

12. In regard to claim 1, Murakami et al. discloses a common rail injector (90) for injecting fuel in a common rail injection system of an internal combustion engine, having an injector housing (91) which communicates with a central high-pressure reservoir (common rail 141) and in which a nozzle needle (220) that cooperates with a valve piston (pressure control piston 12) is axially displaceable (see figure 3a, and column 8, lines 11-46). Murakami et al. further discloses that the end of the nozzle needle (220) which is oriented toward the valve piston (12), protrudes into a guide sleeve (212), and that the end of the valve piston (12), or more specifically the thrust rod (pressure pin 221), oriented toward the nozzle needle (220), is received in the guide sleeve (212) (see figure 3a).

Murakami et al. discloses that the valve piston (12) is guided within the injector housing

Art Unit: 3752

(91), but does not specifically disclose a valve piece functioning as this guide, as in claim 1 of the present invention.

The Jepson format indicates that all of the elements claimed prior to the phrase “improvement wherein”, are considered an admission of prior art, therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a valve piece, as recited in lines 5-6 in the Jepson portion of claim 1, with the common rail injector of Murakami et al., in order to create a precise guide for the valve piston that can be formed more easily outside of the injector housing and inserted into the housing during the manufacturing process.

13. In regard to claims 4, 9, and 24, Murakami et al., in view of Applicant’s Disclosure, discloses all of the claimed feature of claim 1 and further discloses a thrust peg (no reference number, see figure 3b) on the end of the nozzle needle (220) oriented toward the valve piston (12), protruding into the guide sleeve (212). Also disclosed, is a pair of adjusting pieces (load adjusting spacers 325 and 326) disposed between the nozzle needle (220) and valve piston (12) (see figure 13, and column 13, lines 42-43).

Allowable Subject Matter

14. Claims 2-3, 13, 18, 23, 26-27, and 29-30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 3752

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent application publication to Ganser, and US patents to Stevens, Popp, Fuseya et al., and Hlousek, disclose common rail injectors with nozzle needle and/or valve piston guide members.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W Gorman whose telephone number is 703-306-4205. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on 703-308-2087. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

Darren W Gorman

Examiner

Art Unit 3752

DWG 12/12/02
DWG

December 12, 2002

Michael Mar

MICHAEL MAR 12-12-02
PRIMARY EXAMINER